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10/563,136

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Takeshi Hoshiba

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EXAMINER

WALTERS, JOHN DANIEL

ART UNIT

PAPER NUMBER

3618

MAIL DATE

DELIVERY MODE

12/02/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/563,136 | Applicant(s) HOSHIBA ET AL. | |
| | Examiner JOHN D. WALTERS | Art Unit 3618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 8-14, 17 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 15 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1 - 7, 15 and 16 have been examined. Claims 8 - 14, 17 and 18 have been withdrawn by Applicant via election restriction.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 - 3, 5 - 7, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (6,356,817) in view of Kuang et al. (6,590,299). Abe discloses a power output unit for a hybrid vehicle comprising:

- an internal combustion engine (Fig. 1, item 150);
- a drive shaft (Fig. 1, item 112);
- an electric power-mechanical power input output module (Fig. 1, item 120);
- said power input output module including an output shaft of said internal combustion engine, said drive shaft and a third shaft (Fig. 1, items 156, 112, and 127);
- said third shaft being connected to a generator (Fig. 1, item MG1);
- said generator having a first rotor linked with said output shaft of said internal combustion engine and a second rotor linked with said drive shaft

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and rotating relative to said first rotor and outputting at least part of the power from said internal combustion engine to said drive shaft (Fig. 1, items 133 and 132);

- said power input output module being linked with an output shaft of said internal combustion engine, with said drive shaft and outputting at least part of the power from said internal combustion engine to said drive shaft (column 9, lines 15 - 22);
- a motor capable of inputting and outputting power to and from said drive shaft (Fig. 1, item MG2);
- an accumulator capable of supplying and receiving electric power to and from said input output module and said motor (Fig. 1, item 194);
- a power demand setting module that sets a power demand in response to an operator's manipulation (column 9, lines 9 and 10);
- a target power setting module that sets a power to be output from said internal combustion engine based on the setting of said power demand (Fig. 1, item 170);
- a drive restriction module which effects a drive restriction of said motor based on a predetermined restricting condition (Fig. 1, item 191 and Fig. 6 S140);
- a correcting module that corrects said setting of said target power based on said drive restriction (Fig. 6, item S170);

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- a control module that executes normal control of said internal combustion engine, said power input output module and said motor when no drive restriction is effected (Fig. 1, item 190 and Fig. 6);
- a control module that executes restriction control of said internal combustion engine, said power input output module and said motor when drive restriction is effected (Fig. 1, item 190 and Fig. 6);
- a charge-discharge electric power measurement module that measures a charge-discharge electric power used to charge said accumulator or obtained by discharging said accumulator (column 10, lines 1 - 16);
- an electric power demand setting module that sets an electric power demand for charging or discharging said accumulator (column 10 , lines 1 - 16);
- said correction module corrects the setting of said target power to compensate for a difference between said charge-discharge electric power measured and said electric power demanded (column 10, lines 1 - 16);
- said target power setting module specifies a target torque and a target revolution speed to set said target power (column 10 , lines 35 - 37);
- said correction module varies said target revolution speed to correct said target power (column 11, lines 15 - 17).

Abe does not disclose the use of temperature of a motor as a control variable.

Kuang, however, discloses a hybrid electrical vehicle control strategy comprising:

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- a hybrid vehicle including a motor, wherein a restriction upon the use of said motor is based upon a temperature of said motor (Fig. 2, item 82 and column 6, lines 19 - 22).

It would have been obvious to one of ordinary skill in the art at the time the instant invention was made to make use of the temperature based motor control of Kuang with the hybrid vehicle of Abe in order to minimize the potential for damage of said motor from over use and/or overheating.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (6,356,817) in view of Kuang et al. (6,590,299) as applied to claims 1 - 3, 5 - 7, 15 and 16 above, and further in view of Tadao et al. (JP2000-087785), cited by Applicant. Abe in view of Kuang does not disclose the use of power control based on load ranges. Tadao, however, discloses a hybrid electric vehicle comprising:

- an engine mode set in response to a vehicle being in a light load state (paragraphs 22 and 23).

It would have been obvious to one of ordinary skill in the art at the time the instant invention was made to include the control parameters of Tadao with the power output unit of Abe in view of Kuang in order to enable control of a power system based on the required load, specifically, restricting power output when a low load is required. This reduces wear and tear on mechanical components and conserves fuel.

Response to Arguments

Applicant's arguments with respect to claims 1 - 7, 15 and 16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Komiyama et al. (7,055,636) disclose a drive control device for a hybrid vehicle;
- Amano et al. (2001/0017227) disclose a hybrid vehicle;
- Yamaguchi et al. (2002/0062183) disclose a control system for a hybrid vehicle.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN D. WALTERS whose telephone number is (571)272-8269. The examiner can normally be reached on Monday - Friday, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dickson Paul can be reached on (571) 272-7742. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GLENN DAYOAN/
Supervisory Patent Examiner, Art Unit 3612

John D. Walters
Examiner
Art Unit 3618

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Examiner, Art Unit 3618